FOLDAWAY VISE TABLE AND SAWHORSE

Portable, compact, and stowable, this sturdy vise table and sawhorse are great additions to any workshop. The table, in closed position, is a solid level surface, 1-1/2 inches thick, for workshop jobs from planning to woodcarving. As a vise, it has nearly a 4-inch capacity. Both table and sawhorse fold into 2-foot by 3-foot by 6-inch packages for space-saving storage when not in use.

The set is constructed from a single panel of tough, durable CANPLY EXTERIOR plywood plus assorted hardware, fasteners, and finishing materials. Tools needed are power saw, screwdriver, and clamps for the table and sawhorse; and drill, ¼ and 3/8 inch taps, and hacksaw for the vise mechanism. If you are not equipped to handle mechanism construction, a machine shop can do it for you. For tips on cutting and working with plywood, read the "Building Hints" section of this plan.

MATERIALS LIST
Recommended plywood: CANPLY EXTERIOR Good Two Sides (G2S) or Good One Side (G1S) Plywood

PLYWOOD:

Quantity	**Description**
1 panel	19mm x 1220 mm x 2440 mm (4ft x 8ft)

Quantity	**Description**
12	Strap hinges, 1-1/2 in. with screws
4 pieces	Angle iron, 1-1/2 in. x 2 in.
2 pieces	Threaded rod, 3/8 in. dia. X 18 in. long
4	Nuts, to fit 3/8 in. dia. Threaded rod
2	Bolts, ¼ in. dia. X 5 in. long
2	Lock nuts, 3/8 in. dia. X ½ in. deep
20 approx.	No. 8 flat-head wood screws, 2 in. long
8	No. 8 flat-head wood screws, 2 in. long
8	No. 8 round-head wood screws, 1-1/4 in. long
2	Carriage bolts, ¼ in. dia. X 2 in. long, with wing nuts
3	Compression pins, 1/8 in. dia. X ½ in. long
As required	Wood dough for filling any small voids in plywood cut Edges; fine sandpaper for smoothing cut edges and Cured wood dough
As required	White glue for glue-screw assembly
As required	Finishing materials

CONSTRUCTION NOTES

1. Lay out parts on plywood. Centre saw cuts on layout lines to equalize saw kerf (saw blade width) on all parts. First cut off the table top section. Next, cut it in half. Set these two sections aside. Cut remainder of parts. To cut slots, clamp sawhorse legs together and cut slots simultaneously, either using a router or making parallel side cuts and removing slot material with hammer and chisel. Repeat for sawhorse ends.

2. Lightly sand plywood cut edges smooth.

3. Slide sawhorse ends into leg slots to check fit. Adjust if necessary. Fasten ends to top with hinges.

4. Laminate the two table top sections together, using glue according to manufacturer's instructions. Clamp until dry. Next cut the laminated piece lengthwise into two 12 in. wide sections.

5. Assemble runner channels (side and bottom plates) and fasten to the stationary section of the table top, as shown in detail. Be careful to align channels in perfect parallel so that slides will not bind. Use glue and flathead screws: 2 in. screws where channels fasten to top, 1-1/4 in. screws on other half. Attach spacer plate using glue and 1-1/4 in. screws.

6. Place runner slides in runner channels and lay movable table section in position on top of slides. Mark position of slides on underside of movable table section and then, using 1-1/4 in. screws, glue-screw slides to movable table section as shown in exploded view. This assures slides running true within channels.

7. Hinge legs to stationary table top assembly (see bottom and front views). Note that the spacer plate on one side allows legs to fold flat. Also install hinges that fasten cross braces to legs. Note placement in end and front views. Where cross braces overlap, drill a 5/16 in. dia. Hole through cross braces. Insert carriage bolts and wing nuts. (These remove for unit storage.)

8. Drill a 3/16 in. hole through a lock nut and tap it with ¼ in. threading. Place nut to act as handle/rod connector on one send on the threaded rod and insert one of the 5 in. long bolts. Bend end of bolt to form a handle. Repeat for second rod.

9. Drill two 3/16 in. holes in one flange of each angle iron to accommodate mounting screws (1-1/4 in. round-head) . Centre a 5/16 in. hole in remaining flanges of angle irons to be installed on movable table section and tap to fit the threaded rod. Centre a 7/16 in. hole in remaining flanges of angle irons to be installed on stationary table section. (See detail.)

10. Using 1-1/4 in. round-head screws, fasten angle irons beneath table sections (see bottom view and detail) flush against inside edges of runner

channels. 7/16 in. and 5/16 in. holes drilled in step 9 should align, front to rear.

11. Install threaded 3/8 in. rods and hardware as shown in detail. Drill 1/8 in. dia. Holes through retaining nuts and rod. Insert compression pins to lock in place.

12. Woodworkers may want to drill a configuration of 5/8 in. holes in the vise-table top. The use of dowels will then accommodate a wide variety of shapes and sizes of woodwork to be held by the table.

13. Remove movable section and carriage bolts before finishing. Fill any small voids in plywood cut edges with wood dough and sand smooth when dry. If desired, finish with primer and paint according to finish manufacturer's directions. Do not paint runner channels or slides. Wax runner slides before reassembling the vise-table.

BUILDING HINTS

These general hints are designed to help you achieve the best possible results in working with plywood. They apply not only to this plan, but to all projects you may undertake that include CANPLY EXTERIOR plywood. Since building methods and interpretation of suggestions may vary, the CANPLY cannot accept responsibility for results of an individual's project efforts.

PLANNING Before starting, study the plan carefully to make sure you understand all details.

MAKING LAYOUT Following the panel layout, draw all parts on the plywood panels using a straightedge and a carpenter's square for accuracy. Use a compass to draw corner radii. Be sure to allow for saw kerfs when plotting dimensions; if in doubt, check the width of your saw cut.

CUTTING For hand-sawing use a 10 to 15 pt. Cross-cut. Support panel firmly with good face up. Use a fine-toothed coping saw for curves. For inside cuts start hole with drill then use coping or keyhole saw. For power sawing a plywood blade gives best results, but a combination blade may be used. Panel face down for hand power sawing. Panel face up for table power sawing. With first cuts reduce panel to pieces small enough for easy handling. Use of scrap lumber underneath panel, clamped or tacked securely in place, prevents splintering on back side. Plan to cut matching parts with same saw setting. If available, you may use a jigsaw, bandsaw, or sabre saw for curved cuts. In any case be sure blade enters face of panel.

DRILLING Support plywood firmly. For larger holes use brace and bit. When point appears through plywood, reverse and complete hole from back. Finish slowly to avoid splintering.

PLANING Remember, edge grain of plywood runs in alternate directions so plane from end toward center. Use shallow-set blade.

SANDING Most sanding should be confined to edges with 80 or finer sandpaper before sealer or flat undercoat is applied. You may find it easier to sand cut edges smooth

before assembling each unit. Plywood is sanded smooth in manufacture – one of the big time-savers in its use – so only minimum surface sanding is necessary. Use 120 sandpaper in direction of grain only, after sealing.

ASSEMBLY Assemble by sections; for example, drawers, cabinet shells, compartments – any part that can be handled as an individual completed unit. Construction by section makes final assembly easier. For strongest possible joints, use a combination of glue and nails (or screws); to nail-glue, check for a good fit by holding the pieces together. Pieces should contact at all points for lasting strength. Mark nail locations along edge of piece to be nailed. In careful work where nails must be very close to an edge, you may wish to predrill using a drill bit slightly smaller than nail size. Always predrill for screws.

Nails may be casing or finishing. Casing nails are best wherever a heavier nail is needed. For exterior use always use corrosion-resistant nails. Nail length is determined by the thickness of plywood, as follows:

Plywood	Nail
6 and 8 mm	1=1/2”
11 mm	1-1/2 or 2”
14, 17 and 19 mm	2”

Apply glue to clean surfaces, according to manufacturer’s instructions. Press surfaces firmly together until “bead” appears, then nail, check for square, and apply clamps if possible to maintain pressure until glue sets. For exterior exposure, use resorcinol-type waterproof glue; for interior work, use liquid resin (white) or urea resin type glues. (Other glues are available for special gluing problems.)

FINISHING FOR INTERIOR USE MDO plywood needs no preparation and is finished with conventional paints for an exceptionally smooth and durable surface. Stain is not recommended for MDO plywood. Sanded panels require very little preparation, primarily “touch sanding” (in direction of grain only) to smooth any filler or spackle applied to minor openings in the panel face or to remove blemishes. Do not paint over dust, spots of oil, or glue. Any knots or pitch streaks should be touched up with sealer or shellac before painting.

Either water- or oil-base paints can be used to get flat, semigloss, or gloss finishes. Some oil-base paints are self-priming; otherwise use recommended material.

Stains may be used to obtain a natural-looking finish of plywood’s grain patterns and neatly made mechanical repairs. Two methods that give pleasing results are; colour toning, which uses companion stains and nonpenetrating sealers; and light stain, which uses a pigmented sealer, tinting material (stain, thin enamel, or undercoat), and finish coat (varnish or lacquer).

Whatever finishing method you use – paint or stain – always use top quality materials, and follow the manufacturer’s instructions.

FINISHING FOR EXTERIOR USE Since edges of plywood absorb moisture rapidly unless sealed, coat edges thoroughly with a high-quality oil-base exterior paint primer (if unit is to be painted) or a good water-repellant preservative (if unit is to be stained).

For painting, always use a prime coat. Skimping on a primer can jeopardize the effectiveness of even the best top coats. Prime the unit just as soon as you can after assembly is complete. Use a primer that is compatible with the top coat you’ll use. Water-base acrylic latex paints, with companion nonstaining primers are easy to use and clean up and give excellent performance.

For rough or textured plywood, oil-base stains are the recommended finish. Semi-transparent stain provides maximum grain show-through as well as maximum display of surface texture, but leaves little surface film. Opaque stain hides grain pattern but not the texture. Stains should be applied in one or two coats, and, as with paints, give best performance if applied by brush. Brushing works the finish into the wood surface.

Whatever finishing method you use – paint or stain – always use top-quality materials, and follow the manufacturer's instructions.

HOW TO BUY PLYWOOD

Plywood is available in a variety of grades, one of which is just right for this project. The correct grade is shown in the materials list.

CANPLY EXTERIOR Douglas Fir plywood with two faces of the highest appearance (Good Two Sides grade) is specified where both sides of the panel will be seen in the finished job. Faces of this grade, which may contain carefully made repairs, are smooth and easy to paint. Select plywood with uniform grain pattern and colouration if you intend to use a light stain finish.

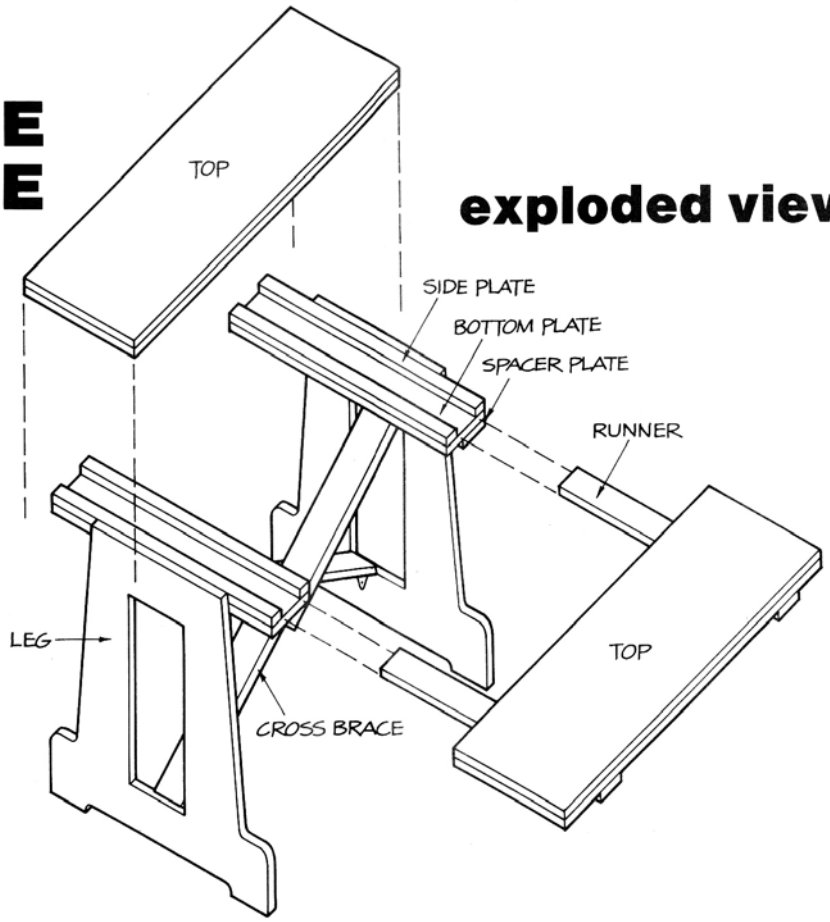
Where only one side of the panel will be seen once the project is comnplete, Good One Side grade is specified for economy.

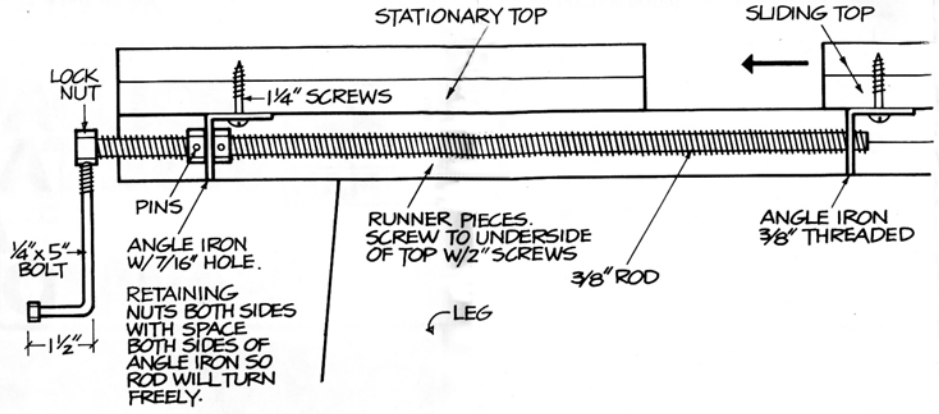
Medium Density Overlaid (MDO) plywood with a resin impregnated fibre overlay may be used as an alternative to Good Two Sides when an extremely high quality paint finish is desired.

Douglas Fir plywood stamped with the registered certification marks shown below is manufactured with waterproof glue by members of the Canadian Plywood Association (CANPLY). These marks are positive identification by the manufacturer that the plywood has been produced in conformance to the specifications of Canadian Standards Association and CANPLY's rigid quality standards.

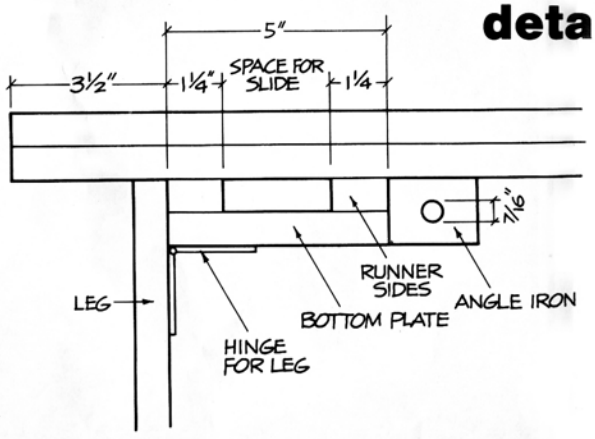
VISE TABLE

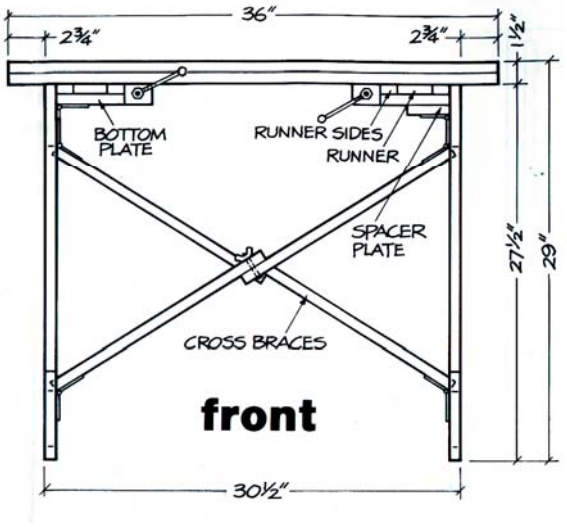
exploded view

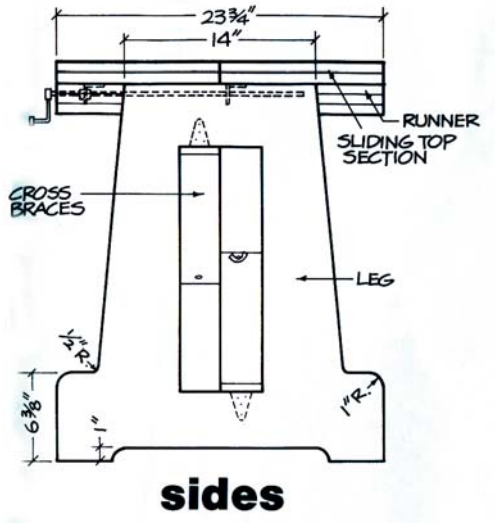


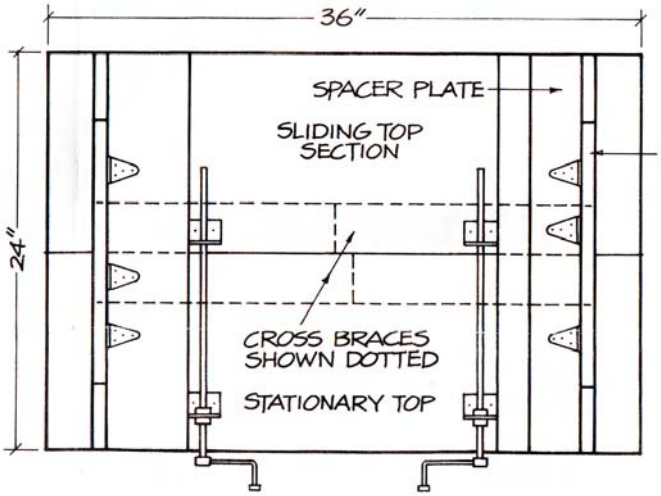

STATIONARY TOP
SLIDING TOP
LOCK NUT
1¼" SCREWS
PINS
ANGLE IRON W/ 7/16" HOLE.
RETAINING NUTS BOTH SIDES WITH SPACE BOTH SIDES OF ANGLE IRON SO ROD WILL TURN FREELY.
¼" x 5" BOLT
1½"
RUNNER PIECES. SCREW TO UNDERSIDE OF TOP W/ 2" SCREWS
3/8" ROD
ANGLE IRON 3/8" THREADED
LEG

details

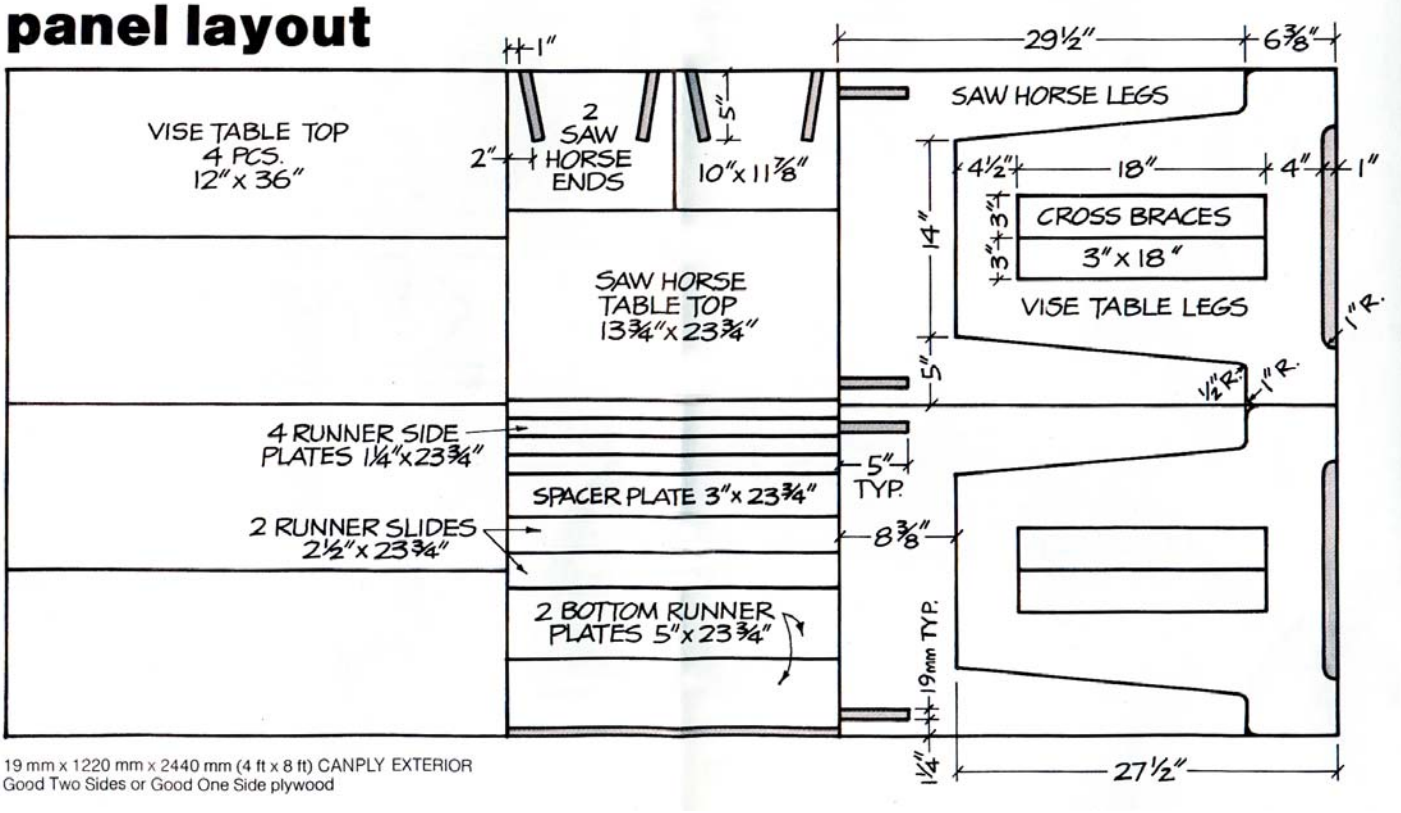



36"
2¾"
2¾"
1½"
BOTTOM PLATE
RUNNER SIDES
RUNNER
SPACER PLATE
CROSS BRACES
27½"
29"
30½"
front


23¾"
14"
RUNNER
SLIDING TOP SECTION
CROSS BRACES
LEG
4½" R.
6⅜"
1"
1" R.
sides


36"
SPACER PLATE
SLIDING TOP SECTION
LEG
24"
CROSS BRACES SHOWN DOTTED
STATIONARY TOP
top view

panel layout



Although every effort is made to be accurate in the design and drawing of all plans published by CANPLY, the possibility of error exists. Be sure that you have reviewed and understand all steps of construction and have verified all dimensions before cutting your material. Quality of workmanship and the conditions under which the plywood is used vary widely. Because CANPLY has no control over these elements, it cannot accept responsibility for plywood performance or designs as actually constructed, nor will it enter into correspondence regarding this plan.

Foldaway Vise Table and Sawhorse designed by Ron Newbry, Yakima, Washington. This plan was originally published by the Council of Forest Industries 1978.

Canadian Plywood

Superior Quality & Performance

Why Canadian Plywood?

Outstanding Quality

CANPLY plywood will meet your highest standards of quality. Our panels have all the features expected from a premium structural panel.

Smaller Knots

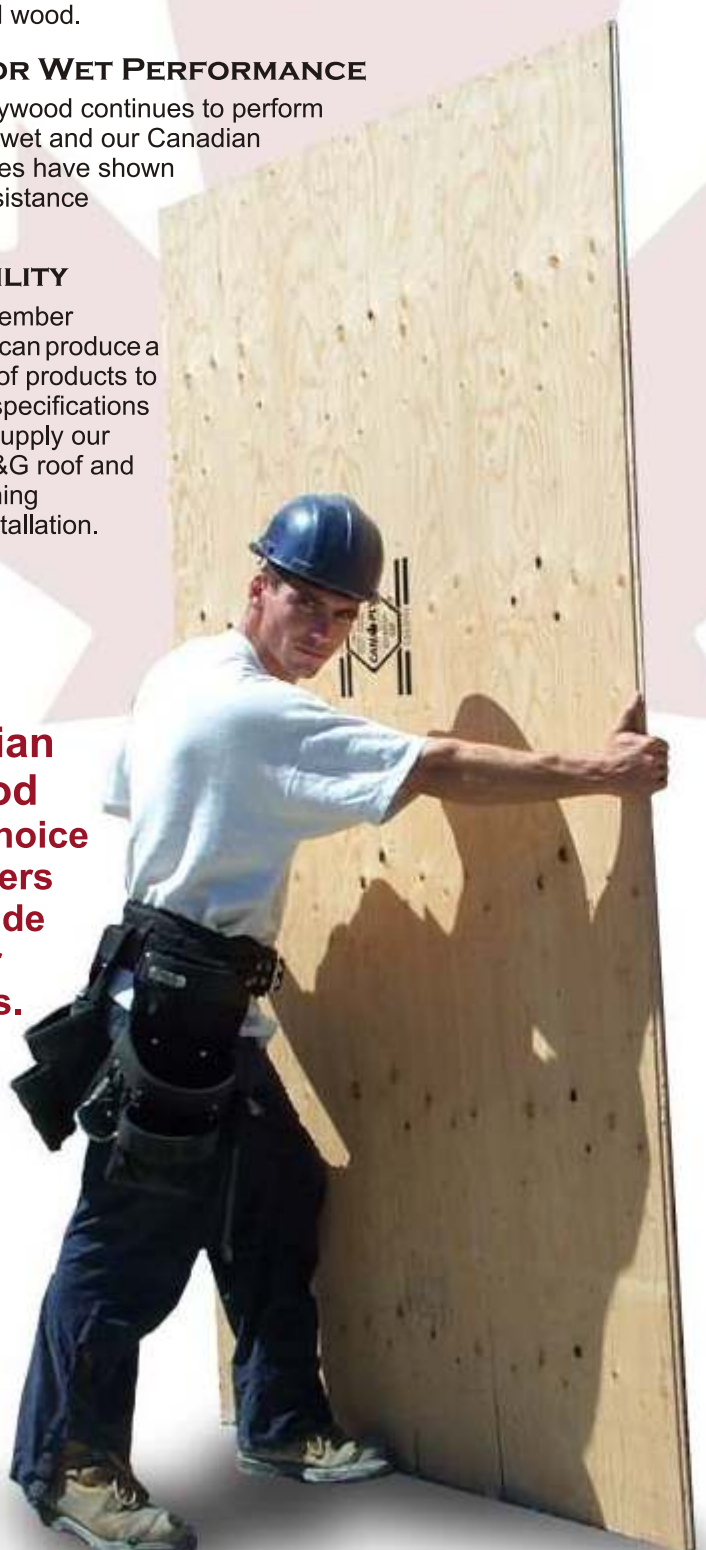
Long, cold, Canadian winters produce quality tight-knotted, fine grained wood.

Superior Wet Performance

CANPLY plywood continues to perform even when wet and our Canadian wood species have shown superior resistance to warp.

Versatility

CANPLY member companies can produce a vast range of products to meet your specifications or we can supply our patented T&G roof and floor sheathing for easy installation.



Canadian Plywood is the choice of builders worldwide for over 50 years.

Benefits of Using Plywood:

Plywood outperforms all substitute wood-based panels on the market today.

Highly Stable
Plywood is a highly stable panel. When exposed to moisture or high humidity, plywood is up to seven times more resistant to thickness swell than substitute wood-based panels. Plywood also returns to its original dimensions when it dries.

Stronger and Lightweight
Plywood is stronger than substitute wood-based panels in the four important engineering strength properties of bending, tension, compression and planar shear and plywood weighs up to 40% less than substitute wood-based panels of equivalent thickness.

Impact Resistant
Plywood is a highly impact-resistant panel and continues to perform even when wet.

Proven Performance
Plywood has over 50 years of proven service as a structural panel for homes and construction and remains, according to surveys, the panel of choice by home buyers, contractors, architects and engineers.

Environmentally Responsible
Plywood is manufactured from logs averaging 25cm (10 inches) in diameter from managed sustainable forests. 100% of the log is utilized for either veneer, or by-products, such as 2x4 lumber, landscaping ties or chips for pulp and paper. Nothing is wasted.

Value Added
Plywood manufacturing, because it is a value added process, employs four times as many people compared to the manufacture of substitute wood-based panels - using the same volume of logs.

Please visit our website for more information:
www.canply.org